

CLAIMSWhat is claimed is:

1. An ink reservoir adapted for holding a supply of pigmented ink, the ink comprising solid particles of colorant dispersed in a carrier fluid, comprising:
  - a containment vessel;
  - 5 a body of reservoir material disposed in the vessel;
  - a fluid interconnect opening formed in the vessel;
  - a screen disposed in the containment vessel and across the interconnect opening and in contact with the body of reservoir material, the screen having a pore size small  
10 enough to prevent air passage at operational pressures and large enough to allow said dispersed colorant particles to pass therethrough.
2. The ink reservoir of claim 1, wherein the body of reservoir material forms a capillary storage member for storing ink within the reservoir under negative pressure.
3. The ink reservoir of claim 1, wherein the containment vessel has a bottom wall and a top wall, and wherein the fluid interconnect opening is disposed in the bottom wall, and a vent opening is formed in the top wall.
4. The ink reservoir of claim 1, further comprising a supply of pigmented liquid ink disposed in the containment vessel.
5. The ink reservoir of claim 1, wherein the screen has a nominal pore size of 40 microns.

6. The ink reservoir of claim 1, wherein the screen is fabricated of a polyester mesh.

7. The ink reservoir of claim 1 further comprising a housing having a wall in which the interconnect opening is defined, and said screen is bonded to said wall in a peripheral region about the interconnect opening.

8. A method for ink replenishment in an inkjet printing system employing pigmented ink, the ink comprising solid particles of colorant dispersed in a carrier fluid, the system including an inkjet printhead and a replaceable  
5 ink container, and a fluid interconnect providing an ink replenishment path between a fluid interconnect inlet port and the printhead, the method comprising:

providing the ink container with an interconnect outlet port, and with a body of reservoir material disposed  
10 in the container, the ink container further including a screen disposed across the interconnect output port and in contact with the reservoir material, the screen having a pore size small enough to prevent air passage at operational pressures and large enough to allow said dispersed  
15 colorant particles to pass therethrough;

bringing the reservoir fluid outlet port into contact with the fluid interconnect inlet port and the screen;

drawing ink stored in the container through the screen, the fluid interconnect and to the printhead.

9. The method of claim 8, further comprising the step of providing a filter in the fluid interconnect at the fluid inlet.

10. The method of claim 8 further comprising:

providing a fluid interconnect tower having at a distal end thereof the fluid interconnect inlet port, and wherein the step of bringing the fluid outlet port  
5 into contact with the fluid interconnect inlet port and the screen includes positioning the ink container against the fluid interconnect tower so that the screen contacts the distal end of the fluid interconnect tower.

11. The method of claim 10, wherein the step of providing a fluid interconnect tower includes positioning a filter at the distal end of the fluid interconnect tower.

12. The method of claim 8, further comprising:  
filling the ink container with a supply of liquid pigmented ink.

13. The method of claim 8, wherein the screen pore size is selected to be large enough to keep the ink back-pressure below a threshold backpressure during normal operating conditions.

14. An inkjet printing system, comprising:  
an inkjet print cartridge comprising an inkjet print-head;  
a replaceable ink container for holding a primary  
5 supply of pigmented liquid ink, the ink container comprising a containment vessel, a body of reservoir material disposed in the vessel, a fluid interconnect opening formed in the vessel, and a screen disposed in the containment vessel and across the interconnect opening and in contact  
10 with the body of reservoir material, the screen having a pore size small enough to prevent air passage at operational pressures and large enough to allow said dispersed

colorant particles to pass therethrough;

15       a receiving station for mounting the print cartridge  
and the ink container;

20       a fluid interconnect structure for establishing a  
fluid path between the ink container and the print  
cartridge when the ink container and the print cartridge  
are installed in the receiving station, the fluid  
interconnect structure including an interconnect tower  
having at a distal end thereof a fluid interconnect inlet  
port, and wherein the fluid outlet port is brought into  
contact with the fluid interconnect opening and the screen  
when the ink container is installed in the receiving  
25       station.

15.    The system of claim 14, wherein the body of  
reservoir material forms a capillary storage member for  
storing ink within the reservoir under negative pressure.

16.    The system of claim 14, wherein the containment  
vessel has a bottom wall and a top wall, and wherein the  
fluid interconnect opening is disposed in the bottom wall,  
and a vent opening is formed in the top wall.

17.    The system of claim 14, further comprising a  
supply of pigmented liquid ink disposed in the containment  
vessel.

18.    The system of claim 14, wherein the screen has a  
nominal pore size of 40 microns.

19.    The system of claim 14, wherein the screen is  
fabricated of a polyester mesh.

20. The system of claim 14 wherein the containment vessel comprises a wall in which the interconnect opening is defined, and said screen is bonded to said wall in a peripheral region about the interconnect opening.